

ADHD: UNRAVELING “THE PERFECT STORM”

ADHD: A NEUROLOGICAL DISORDER OF IMBALANCE AND DIS-ORGANIZATION

It is my very well experienced and educated opinion (makes me sound old!) that the majority of the time **ADHD is neither a "deficit" or a "disorder"** but instead is a brain and central nervous system (CNS) that has a "Ferrari engine" but "bicycle brakes" - thus it is constantly in a state of sympathetic dominance. The sympathetic side of our CNS is the fight/flight side, where hyperactivity, fidgeting, anxiety, and other such things live.

It is a God-given emergency response system that is crucial for survival. But, it is meant to only be "turned on" for short periods when needed, and is not meant to be stuck on at all times. We refer to this side of the CNS (or could also say ANS for Autonomic Nervous System in this case, as 99.9% of all this is subconscious) as the "gas pedal" side, and the "brake pedal" side is the Parasympathetic side that is responsible for growth, relaxation, digestion, and development.

It is very clear that when we test these kids neurologically in our office using technology, we find they are chronically stuck in that fight/flight stage. **And that is the most common component I see with ADHD - excessive sympathetic dominance.** This is where the hyper energy, impulse, and behavior issues can come from. We refer to this as “Raging Bull” type.

However, another component that often comes along is the attention/confusion/organization component, and that is that these kids CNS/brain/ANS is also poorly organized and integrated. Somewhere along the line their sensory processing and integration (organization) development also got off track, and this is a much overlooked component of ADHD.

The way I see it these kids go through most of development in "overdrive" and thus they are "spinning so fast" that when developmental things come along (social, academic, behavioral, physical, speech, etc.) come along and try to "stick" and integrate, they are spinning so fast that everything just "pings off" and never fully processes and integrates. **So the second component is a poorly organized nervous system.** We refer to this as “Drunken Bull” type.

Therefore, anything you do to try and help these kids must first have its foundation in addressing those two issues, and in that order. If you don't calm and balance out the ANS then every other form of therapy from nutritional to behavioral to psychological will be fighting an immense uphill battle. However, once that is slowed down and balanced, EVERYTHING becomes so much easier to improve with that child!

And that takes us to the chiropractic portion. While many people think of chiropractic as "spine or back" care, few people (even 95% of medical doctors) fail to realize the connection between the spine and function/health of the brain and CNS. It is much more accurate in reality to **think of the spine as not just a collection of bones, muscles, and ligaments, but instead as an entire neurological "organ" that is the key communication component between brain and body.** Later on too you will see that proper alignment and movement of the spine, especially the upper neck, is absolutely an essential "nutrient" that drives and powers the brain, or "charges" it.

BIRTH TRAUMA LEADING TO SUBLUXATION AND NEURO-DEVELOPMENTAL DELAYS:

Over 75% of the Neuro-Developmental or Spectrum cases (Autism, ADHD, Sensory, Anxiety, etc.) that we see in our office have some form of **birth trauma** to the head, neck, and spine. As you will see, this then becomes the first insult or irritation to the nervous system causing it to move to a state of chronic fight/flight dominance mentioned above. With nearly half of all births now done via surgery (C-section where the child's head and neck is used as leverage to remove them from the mother's womb), and most of the other half using interventions like Pitocin and epidurals which are proven to increase stress on the child, many infants receive their first significant subluxation (defined next) immediately at birth, starting off the "perfect storm" that will eventually develop into ADHD or other similar challenges.

These forms of deliveries put excessive strain and tension on the child's body, especially the head, neck, and spine, with the most commonly injured area being the upper neck as it is most susceptible to rotational and lateral flexion type movements common in these deliveries. In fact, a German researcher Dr. Gutman found back in the 1980s already that **80% of kids** had what he termed KISS Syndrome (Kinematic Imbalance & Suboccipital Strain), or put another way... their head wasn't on straight. In chiropractic terms, this is an upper cervical and/or cranial subluxation. With current trends of obstetrics and labor/delivery, it is likely if that study were repeated today it would be greater than 90%.

Subluxation has three major components to it, the first two of which are "physical" or structural" components: **misalignment and fixation**. Again, the misalignment usually is caused by the birth process. Once misaligned, the vertebra and surrounding vertebra have difficulty going through proper range of motion since things aren't "lined up right" and thus fixation or loss of proper movement results. The most obvious example of this subluxation in infants is referred to as "torticollis" or "wry neck" and is commonly referred to physical therapy for treatment. However, physical therapy only addresses the first two components and neglects the third component discussed next. If a child has torticollis at birth or shortly after, they are much greater risk of going through the "perfect storm" and thus being labeled with ADHD one day.

THE 5 D'S:

The third component of the subluxation is the most crucial and most troublesome: neurological interference and imbalance (The 4 D's). We now know that since the abnormal alignment and fixation (**dys-kinesia**) leads to abnormal neurosensory afferent (incoming) input into the brain and CNS, that the system is then stimulated or driven into that sympathetic fight/flight state described above (**dys-afferentation** leading to **dys-autonomia**). These components of neurological disturbance then contribute to and cause one more component known as **dys-ponesis**, or "abnormal energy output and control" which is very, very commonly associated with ADHD (the definitions of ADHD and **dys-ponesis** are virtually identical).

And lastly, a final piece of this is what we refer to as dys-connection, and it's equal parts neurological and theoretical. The neurological component is that we know that different regions of the brain, and even different hemispheres (halves) of the brain, are responsible for different functions... and when a child is subluxated, the communication and integration of these brain centers is interfered with, or disconnected and out of balance. And the "theoretical" part comes in because when these kids are this subluxated, this stressed, and the especially if they get medicated... they become essentially disconnected from reality.

Couple of side notes: This subluxation is often even present prior to birth if the mother had in-utero constraint issues, most notably breech positioning that would put this stress on the child's neck even prior to labor. Also, in my personal experience having examined thousands of children and infants, I have yet to see a child born via C-section who did not have at least a mild upper cervical subluxation. If you have been told that C-section is "better" or "gentler" on the child, then I suggest you search YouTube and watch for yourself before making final opinion.

Few people understand neuro-science to this degree, even in health care and medicine, but the truth is the brain is "fed" through movement, **60% of which comes directly from the spine** (33% alone from the upper cervical spine). Since over HALF of all the neurons in the spinal cord have a primary responsibility of carrying signals of movement and alignment into the brain, it is very clearly said that "movement is life."

Therefore chiropractic adjustments, especially to those areas of the **upper cervical spine** that were subluxated (misalignment and fixation or loss of movement), have profound and incredible impact on restoring proper input ("food") into the brain, thereby balancing and calming it down. The adjustments have been shown over and over to decrease sympathetic dominance and reduce the 4 D's:

- The adjustment restores proper alignment and movement (dys-kinesia).
- The adjustment restores proper incoming flow of proprioception (movement) into the brain (dys-afferentation).
- The adjustment balances out the autonomic nervous system, calming the sympathetic most commonly (dys-autonomia).
- The adjustment restores energy output and organization to normal levels (dys-ponesis).
- The adjustment balances all of the systems of the brain and nervous system, and improved their integration and communication (dys-connection).

In summary, ADD/ADHD are INPUT problems, not OUTPUT problems. All of the signs and symptoms are simply effects of the stress and subluxation on their system... As Pediatric Chiropractors, we find that stress and subluxation and remove it, restoring balance to the nervous system. In another way, we fix the input... and then the brain and the body normalize and balance the output.

It really can be that simple.

OTHER INGREDIENTS OF THE “PERFECT STORM:

While we won't go into as much detail in these areas, please know that we easily could and they all contribute greatly to the onset and continuation of challenges such as ADHD.

LACK OF PROPER EXERCISE AND FITNESS:

This section ties in closely with the same neurological and physiological effects we saw with subluxation and spinal injury. That section clearly showed that movement is responsible for stimulating and organizing our brain and central nervous system, and since ADHD is a neurological disorder, it is clear to see that proper fitness and exercise is crucial for these kids.

Study after study has shown that the more activity and exercise a child gets, the better they pay attention, the calmer they are, and the higher their test and organization skills are. This one requires very little explanation since the neurology is the exact same as with subluxation (think of an adjustment as “very specific segmental exercise” and of exercise as a “global adjustment”).

It is my professional opinion that **nearly 3/4 of kids with ADHD could more properly be labeled as Sensory Processing Disorder** (but, the truth is I don't care about labels and symptoms, just what causes the problem), and that the poor organization and integration issues often cause the child to be uncomfortable, nervous, and agitated... which in turn lead to hyperactivity, inability to pay attention, and impulsive behaviors.

So, by addressing this organization and sensory processing component with exercises and just plain overall fitness and physical play, the child often quickly becomes calmer, more organized, and behaves better. Some of the best forms of exercise we have found that fit this “whole body and brain organization” concept are martial arts, swimming, CrossFit Kids, and horse-back riding. Also, this area is where pediatric OTs and PTs really come into play for specific exercise therapies.

NUTRITIONAL AND ENVIRONMENT TOXICITY:

Unfortunately today, the diet of the typical American child immediately from birth is downright awful, especially if children are unable to be breastfed. While breastfeeding is important and has health benefits that outweigh formula, it is still susceptible to the diet of the breastfeeding mother, which is also usually quite poor. Formula on the other hand is mainly sugar and other processed or synthetic nutrients that set the stage for inflammation and irritation in many children.

From there, most parents follow the pediatrician recommended first foods of cow's milk and cereal grains. When one really study's nutrition even a bit, it is easy to see this is also an awful idea that causes many health challenges for children, and in the end can begin to set the stage for things like ADHD.

Cow's milk contains a protein called casein that is very difficult for a human being to digest and breakdown, let alone an infant or young child with an immature digestive and immune system. When incompletely broken down, casein often causes an immune reaction in the child that can not only look like a typical allergy, but also can look like **hyperactivity and behavioral issues similar to ADHD.**

What is more, cow's milk is **highly processed** and therefore contains things such as growth hormone and antibiotics, and it is also pasteurized (heated to a very high heat) which kills and denatures many of the proteins and molecules so that when ingested by humans these molecules are seen as "foreign invaders" and invoke an immune response of irritation and inflammation. Sound like colic, acid reflux, ear infections, and hyperactivity? It should.

Next up are cereal grains, which are often an infant's first solid food and then become a staple of the American child's diets in the way of breakfast cereals, chips, crackers, cookies, breads, pasta, and pastries. Debate can be had over refined grains and whole grains, with whole grains obviously being better, but **the bottom line is grains breakdown into sugar in the body, and sugar feeds the sympathetic nervous system** and other imbalances mentioned throughout this article.

Following that, our diet and entire environment are now full of chemicals such as preservatives, additives, and pesticides. **It has been said that "air, food, and water are essential for life... and we've polluted all three."** I think that pretty much sums it up! These preservatives and pesticides especially (ie. red food coloring) have been proven to increase incidence of ADHD, and also proven to improve ADHD when removed from a child's diet and environment. Often this is an easy first step to take for a parent whose child is challenged with ADHD type issues – remove chemicals from their food and environment, as well as limit or remove cow's milk and dairy products, cereal grains, and sugar.

In addition to all of this toxicity of cow's milk, grains, sugar, and preservatives children are also very deficient in the things their brain is genetically programmed to need for proper function, things such as omega 3 fatty acids, plant based proteins and carbohydrates, and clean water. Some studies show that a whopping 80% or more of kids are dehydrated and that contributes to lethargy and attention troubles itself, plus more. So another great place to start is: Adding a source of omega 3 fatty acids to your child's diet through either increasing fish consumption or adding a fish oil supplement, increasing the amount of fruits and veggies your child takes in (try smoothies and juicing), increasing water intake, and giving them a good whole food organic multivitamin.

Many of these kids also have significant **immune challenges** also stemming from the neurological imbalances (sympathetic dominance weakens the immune system, leaving it susceptible to illness and infection), and thus have a history of co-morbidities such as repeated ear and sinus infections, frequent colds and flu, asthma, allergies, and more. Therefore, often times they have been put on round after round of antibiotic and steroid medications that further weaken and destroy their already sensitive immune system and gut (70% of immune system is in the gut).

Therefore, **restoring proper balance and function the gut is a crucial piece** for many of these kids and can be helped not only by cleaning up the diet and environment, but also with supplements such as probiotics and digestive enzymes. This, along with all the other factors, should help strengthen their immune system and lessen the frequency of infections and illness... and thus lessen the amount of other drugs prescribed to the child as well.

Thankfully, the scans done discussed above go a long way to helping a well-trained and highly skilled pediatric chiropractor (along with a good history and consultation) to helping determine how big of a role poor immune and GI function play in each child's case. **I personally find three types of ADHD kids clinically:**

- The first type is purely neurological, meaning the subluxation has a physical cause such as birth trauma or a childhood fall/accident, and thus chiropractic adjustments will be the primary and most important treatment.
- The second type is a child whose diet and environment are awful, and/or they have a severely challenged immune system and GI system. This type of child will respond very well to nutritional changes and supplementation.
- The third type of ADHD child is the “mixed bag” where there are components of both. This is by far the most common type, with varying “percentages” of causation.

ELECTRONIC TOXICITY AND INTERFERENCE:

Want to know another common factor I see in children presented to my office for help with ADHD? They are glued to handheld video games, iPods, iPhones, and computers.

All of these technological advances have added all sorts of convenience to our lives, but at the expense of creativity and imagination. , especially kids with these **“Kids are designed to CREATE play, not have it created and provided for them Ferrari”** brains. Unfortunately, since ADHD kids do have these high-functioning and high-motor brains, they get hooked onto electronics even more so than other kids, because the electronics run at a super-fast “frequency” just like they do.

Thus, every time a child is plugged into one of these things, it causes their sympathetic system to activate. Just as bad, it also causes the regions of their brain known for creativity, imagination, and organization to go dormant. So if a child continually “works out” his stress and anxiety centers of his brain through video games and TV, and neglects those designed for organization and attention... which do you think will develop more strongly and become dominant?

So while these things are now a part of our everyday life and all children need to learn how to properly work them and use them, there is plenty of time for that later in life when the brain is more developed and less sensitive to this stress. So yet another great place to start is significantly limiting the amount of time your child spends watching TV, playing video games, on cell phones, etc. The younger the child, the less time by far they should be spending in these areas.

So in the end, I guess the one page (rather than 5 page) answer to the question “what would I do if my child had ADHD?” is best listed here:

1. Have the child evaluated by a Pediatric Chiropractor who utilizes technology in his or her office that measures and tracks the neurological components of the subluxation. Get your child checked for subluxation, and adjusted if needed.
 - a. We have an entire group of Pediatric Chiropractors who are now trained in this work, and a directory can be found at: www.thenationalwellnessfoundation.org
2. Get your child MOVING, exercising, and playing outdoors as much as possible. Look into things like swimming and martial arts especially, and if you feel needed, consult a Pediatric OT and/or PT who is familiar with Sensory Processing Disorder and ADD/ADHD.
3. Clean up the diet and environment in the ways listed above, starting by adding more fruits and veggies and removing pesticides, preservatives, dairy, and sugars. Seek professional help and guidance if needed in this area.
4. Supplement their diet with things such as a good multivitamin, fish oil, probiotic, vitamin D, and an antioxidant. Also consider magnesium.
5. Get the child more exercise and outdoor play activity, or even enroll them in things such as swimming and martial arts.
6. Significantly limit or remove time spent watching TV, on the computer, playing video games, and around electronics of any kind.
7. Do EVERYTHING consistently and for as long as it takes. Remember, “Nerves that fire together, wire together” so it may take a long time to get things under control. Make sure you do things long enough to give them a chance.
8. Hire an ADHD “Coach” or counselor. There are many great psychologists, counselors, and even coaches now out there who work very closely with the family to build the right structure and balance into their lives, to best support the patient or child!